

# Security in Urban Transport

Visual analytics applied to crowd management, incident detection, and operational security in metro, bus, rail, and airport environments.

## — EXECUTIVE SUMMARY

# The essentials in five points

Keyfindings and SecLive value proposition for urban transport operators.

- **Spanish public transport is breaking historical records.** In 2025 it exceeded 5.784 billion passengers (+3.7%). Madrid Metro reached 736.9 million trips. (INE 2026, CRTM 2026)
- **Congestion and incidents generate major losses.** Congestion reached 41.1% in Barcelona and 38% in Madrid in 2025. Around half is linked to temporary disruptions. (TomTom 2025, FHA)
- **Operators cannot monitor every camera at once.** With millions of passengers, manual supervision is not enough to guarantee operational safety.
- **SecLive turns every camera into an active operational sensor.** AI visual analysis over the existing infrastructure. Detection in under 1 second. No civil works, no new hardware.
- **Operational in 48 hours. 100% local processing.** Compatible with any manufacturer.

<b>5.784M</b> <small>PUBLIC TRANSPORT RIDERS SPAIN 2025</small>	<b>736,9M</b> <small>MADRID METRO - RECORD</small>	<b>41,1%</b> <small>BARCELONA CONGESTION</small>	<b>~50%</b> <small>CONGESTION FROM INCIDENTS</small>	<b>&lt;1s</b> <small>SECLIVE DETECTION TIME</small>
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01 · CONTEXT: GROWTH IN URBAN MOBILITY DEMAND

Urban public transport in Spain is seeing unprecedented demand. According to INE, passengers in 2025 reached **5.784 billion** (+3.7%). Madrid Metro closed with **736.9 million** trips, its all-time record.

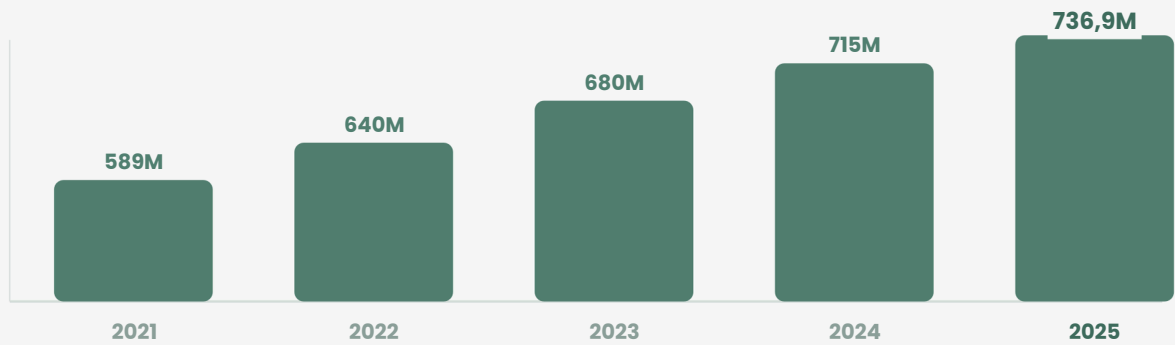
**5.784M**

Public transport passengers in Spain in 2025 · Source: INE 2026

**736,9M**

Madrid Metro trips—all-time record · Source: CRTM 2026

MADRID METRO - ANNUAL RIDERSHIP (MILLIONS) 2021-2025



Source: CRTM 2026

Sustained growth increases operational pressure and makes it harder for manual supervision to cover the whole network continuously.

02 · THE PROBLEM: INCIDENTS NOT DETECTED IN TIME

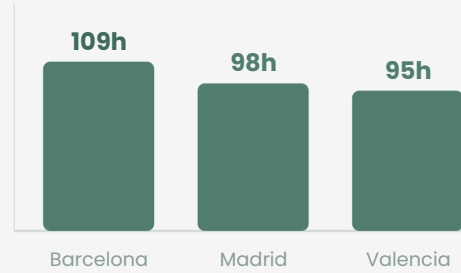
Congestion reached 41.1% in Barcelona and 38% in Madrid in 2025. The problem is that those cameras record but do not detect. SecLive gives them real-time vision capability.

CONGESTION INDEX BY CITY 2025



Source: TomTom Traffic Index 2025

HOURS LOST / YEAR AT PEAK TIME



Source: TomTom Traffic Index 2025

Problems without active detection

**Platform saturation**

Not detected until the problem has already happened

**Abandoned objects**

Manual identification impossible in high density

**Manual reports**

Documentation that consumes hours from the team

### 03 · WHAT PREDICTIVE SAFETY MEANS IN URBAN TRANSPORT

Predictive safety means moving from reactive supervision to active detection: the system identifies risk conditions before they become incidents. SecLive applies AI visual analysis to cameras already installed, with no civil works or new hardware.

#### REACTIVE MODEL

##### Incident -> Detection -> Response

The operator detects the problem after it has already happened. The camera records, but does not act.



#### PREDICTIVE MODEL · SECLIVE

##### Risk condition -> Alert -> Prevention

AI detects the anomaly before it escalates. The camera acts as an intelligent sensor.

#### Technology components

- AI visual analytics
- Integration with existing cameras
- Configuration by camera and zone
- Detection models adapted to the environment
- Real-time alert management
- Unified supervision panel
- Traceable event log
- Evidence and report export
- Local processing on the operator network

#### Compatible network types

- Metro and suburban rail
- Urban and interurban bus network
- Airports - terminals and apron
- Transport hubs and train stations
- Car parks and controlled access zones

## 04 · SECLIVE USE CASES IN URBAN TRANSPORT

SecLive configures specific visual analysis models for the main operating scenarios in metro, bus, rail and airports.

### Real-time occupancy control

Automatic people counting by platform, access point or zone. Generates preventive alerts before saturation occurs.

#### FEATURES

- Automatic real-time counting per camera
- Dashboard with live occupancy across the network
- Historical flow data for capacity planning

### Detection of operational risk situations

Detects falls on platforms, presence on tracks and risk situations. Activates the protocol in under 1 second.

#### FEATURES

- Detection of falls on platforms and access areas
- Alert for presence on tracks or risk areas
- Record with image, zone and timestamp

### Detection of abandoned objects

Automatically identifies luggage or forgotten objects in transit areas. Activates the verification protocol immediately.

#### FEATURES

- Detection in transit areas, platforms and waiting halls
- Automatic activation of the verification protocol
- Differentiation between static object and person with luggage
- Auditable record of each event

### Monitoring of access points and sensitive areas

Continuous supervision of entrances and restricted areas to ensure traceability of movements across the network.

#### FEATURES

- 24/7 supervision of all monitored access points
- Auditable record for operational documentation
- Compatible with existing access control systems

### Generation of operational reports

The platform generates reports with incidents, occupancy, alerts and response times without manual intervention.

#### FEATURES

- Content: incidents, occupancy, alerts and KPIs
- Exportable as PDF and Excel
- Manual download or automatic delivery by shift
- Support for operational documentation and audit

### Detection of hazardous phenomena

Detects signs of smoke or fire, accidents or violent situations in real time. Enables an immediate response.

#### FEATURES

- Detection of smoke or fire in network facilities
- Identification of accidents or violent situations
- Generation of alerts for immediate response
- Improved safety in critical environments

## 05 · VISUAL ANALYSIS AND OPERATIONAL INTELLIGENCE IN TRANSPORT

AI-based visual analysis does not require new infrastructure. The European Commission has identified Intelligent Transport Systems (ITS) as a strategic priority to improve transport efficiency and reduce urban congestion.

### Applications of visual analysis in mobility

- People counting in stations, access points and platforms
- Detection of crowding and saturation in real time
- Pedestrian flow analysis for capacity planning
- Supervision of car parks and modal interchanges
- Incident detection on tracks and transit zones
- Automatic generation of open mobility data

### SecLive in the ITS ecosystem

- Visual analysis layer over existing infrastructure
- Compatible with the main VMS in the sector
- API for integration with urban control centers
- Data exportable in standard sector formats
- Deployment with no impact on ongoing operations

Source: ITF Transport Outlook 2022; European Commission, ITS Directive 2023.

## 06 · REGULATORY FRAMEWORK AND COMPLIANCE

Urban transport operators work under safety, traceability and reporting requirements. SecLive automatically generates the required documentation.

Regulatory framework	What it requires	How can SecLive Solve it
<b>Law 31/1995 on ORP</b>	General prevention framework. Requires identifying, assessing and controlling occupational risks and integrating preventive activity.	SecLive can support detection and logging of risks situations, providing evidence and traceability.
<b>OHS coordination</b>	Requires continuous monitoring, response capacity and documentary support for preventive control.	SecLive offers a unified panel, alerts and exportable records, facilitating monitoring and documentation.
<b>GDPR + LOPDGDD</b>	Images must be deleted within a maximum of 30 days. Restricted access and secure processing	SecLive enables automatic deletion, restricted access and controlled download within the legal period.

## 07 · HOW DEPLOYMENT WORKS

SecLive deployment is designed to be non-invasive, with no impact on on going operations. The full process is completed in under 48 hours.

01	<p><b>Connection to the existing camera network</b> Compatible with more than 300 manufacturers .No civil works or hardware replacement required.</p>	<p>TIME <b>10 min per camera</b></p>
02	<p><b>Configuration of AI models by zone and type</b> Loads the models for each camera and allows exclusion zones, detection zones and custom areas to be defined.</p>	<p>TIME <b>10 min per video-stream</b></p>
03	<p><b>Customization of alert level and visualization</b> Allows alert levels to be selected for each model. Shows detections on the video using a heat map.</p>	<p>TIME <b>1-3 hours</b></p>
04	<p><b>Training and go-live</b> Teamtraining: alert management, dashboard reading, report export and threshold adjustment by zone.</p>	<p>TIME <b>1-3 hours</b></p>

## 08 · Key conclusions

- Public transport operates at historic demand levels that make exclusively manual supervision unfeasible.
- 50% of congestion is caused by incidents not detected in time. Active detection directly reduces this impact.
- SecLive is deployed over the existing infrastructure in under 48 hours, with no civil works or new hardware.
- Visual analysis generates operational data that traditional recording systems cannot produce.
- 100% local processing guarantees passenger data privacy.

The infrastructure already exists. The difference is turning it into operational intelligence.

### Request a personalized demo

No obligation · Operational in 48h · 100% private data

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